

Claims

1. Control system for a plurality of lamp-operating devices that are arranged in a distributed manner
 - 5 having
 - at least one control station (1),
 - a control line (2) which connects the control station (1) to each lamp-operating device,
 - and also having a receiver that is allocated to each lamp-operating device and is provided for the purposes of communication with the control station (1),
 - 10 with each lamp-operating device belonging to a first or a second type and with it being possible to join
 - 15 together lamp-operating devices of the first and of the second type to form functional couples,
characterised in that
the lamp-operating devices of the first type (20-1, 20-2) are configured and connected to the lamp-operating device of the second type (10-1 to 10-4), respectively allocated to them, in such a way that they can selectively activate or deactivate the lamp-operating device of the second type (10-1 to 10-4) in accordance with a request of the control station (1).
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2. Control system according to claim 1,
characterised in that
the lamp-operating device of the first type (20-1, 20-2) of a functional couple has a controllable switch
 - 30 (23) that interrupts the current supply for the associated lamp-operating device of the second type (10-1 to 10-4).
3. Control system according to claim 2,
 - 35 **characterised in that**
all the lamp-operating devices are connected to common current supply lines (3, L, N, PE), with the phase (L)

for a lamp-operating device of the second type (10-1 to 10-4) being guided through the associated lamp-operating device of the first type (20-1 to 20-2).

5 4. Control system according to claim 2 or 3,
characterised in that
the lamp-operating devices of the second type (10-1 to 10-4) are configured in such a way that after an interruption and subsequent re-establishment of the
10 current supply a specified switched-on operating state is automatically taken up.

5. Control system according to claim 4,
characterised in that
15 the lamp-operating devices of the second type (10-1 to 10-4) in the switched-on operating state operate an allocated light source (30-1 to 30-4) at 100% of the maximum brightness.

20 6. Control system according to one of the previous claims,
characterised in that
the lamp-operating devices of the first type (20-1, 20-2) and also the lamp-operating devices of the second
25 type (10-1 to 10-4) of a functional couple have respective supply lines (11a, 11b, 21a, 21b) which can be selectively connected to a light source (30-1 to 30-4) that is to be operated by the lamp-operating devices.

30 7. Control system according to claim 6,
characterised in that
the light source (30-1 to 30-4) that is to be operated is a gas discharge lamp, in particular a fluorescent
35 lamp, with it being possible to connect the supply lines (11a, 11b, 21a, 21b) of the lamp-operating

devices to the heating filaments (30a, 30b) of the gas discharge lamp.

8. Control system according to claim 6 or 7,
5 **characterised in that**
the supply lines (11a, 11b) of the lamp-operating device of the second type (10-1 to 10-4) are guided through the associated lamp-operating device of the first type (20-1, 20-2), with the lamp-operating device
10 of the first type (20-1, 20-2) having internal circuit units (22a, 22b) for the selective connection of the supply lines (11a, 11b, 21a, 21b) to the light source (30-1 to 30-4) that is to be operated.

- 15 9. Control system according to one of claims 6 to 8,
characterised in that
the lamp-operating device of the first type (20-1, 20-2) is an emergency light lamp-operating device and the lamp-operating device of the second type (10-1 to 10-4)
20 is a normal lamp-operating device, with the emergency light lamp-operating device (20-1, 20-2) having a monitoring circuit arrangement which detects the state of the current supply and when an emergency is identified automatically initiates the activation of
25 the light source (30-1 to 30-4) by means of the emergency light lamp-operating device (20-1, 20-2).

10. Control system according to claim 9,
characterised in that
30 the emergency light lamp-operating device (20-1, 20-2) has a battery or an accumulator, whose energy is used to activate the light source (30-1 to 30-4) in the emergency.

- 35 11. Method for initializing a control system for a plurality of lamp-operating devices that are arranged in a distributed manner and each of which belongs to a

first or a second type, with it being possible for lamp-operating devices of the first and the second type to be joined together to form functional couples that are connected in such a way that the lamp-operating

5 device of the first type (20-1, 20-2) can activate and deactivate the associated lamp-operating device of the second type (10-1 to 10-4), in which case the initialization is to bring about a situation where a control station (1), which is connected to all the

10 lamp-operating devices by way of a common control line (2), obtains information on which lamp-operating devices form a respective functional couple, and with the method having the following steps:

a) the control station (1) communicates with all the

15 lamp-operating devices in order to ascertain from each an already existing address and/or to allocate to each a new address and, furthermore, in order to ascertain from all of the lamp-operating devices the respective type;

20 b) the control station (1) calls up a certain lamp-operating device of the first type (20-1, 20-2) under its address established in accordance with step a) and gives it the command to deactivate an associated lamp-operating device of the second

25 type (10-1 to 10-4) - if such a device is present;

c) the control station (1) successively calls up the lamp-operating devices of the second type (10-1 to 10-4) under their addresses established in accordance with step a) and gives them the command

30 to deliver a response signal;

d) the control station (1) establishes whether a lamp-operating device of the second type (10-1 to 10-4) has delivered no response signal and - if so - which one and registers that a lamp-operating

35 device of the second type (10-1 to 10-4) identified in this way forms a functional couple with the lamp-operating device of the first type

(20-1, 20-2), which was called up in accordance with step b);
e) the steps b) to d) are repeated calling up every other lamp-operating device of the first type (20-1, 20-2) until all the lamp-operating devices of the first type (20-1, 20-2) have been called up.

5 12. Method according to claim 11,
characterised in that
10 after the identification and allocation of a lamp-operating device of the second type (10-1 to 10-4) to a lamp-operating device of the first type (20-1, 20-2) in step d) the corresponding lamp-operating device of the second type (10-1 to 10-4) is re-activated.

15 13. Method according to claim 11,
characterised in that
lamp-operating devices of the second type (10-1 to 10-4) that have already previously been allocated to a
20 lamp-operating device of the first type (20-1, 20-2) are not contacted in step c) by the control station (1).

25 14. Method for initializing a control system for a plurality of lamp-operating devices that are arranged in a distributed manner and each of which belongs to a first or a second type, with it being possible for lamp-operating devices of the first and the second type to be joined together to form functional couples that
30 are connected in such a way that the lamp-operating device of the first type (20-1, 20-2) can activate and deactivate the associated lamp-operating device of the second type (10-1 to 10-4), in which case the initialization is to bring about a situation where a
35 control station (1), which is connected to all the lamp-operating devices by way of a common control line (2), obtains information on which lamp-operating

- devices form a respective functional couple, and with the method having the following steps:
- a) the control station (1) communicates with all the lamp-operating devices in order to ascertain from each an already existing address and/or to allocate to each a new address and, furthermore, in order to ascertain from all of the lamp-operating devices the respective type;
 - b) the control station (1) calls up a certain lamp-operating device of the first type (20-1, 20-2) under its address established in accordance with step a) and gives it the command to deactivate an associated lamp-operating device of the second type (10-1 to 10-4) - if such a device is present;
 - c) the control station (1) calls up all the lamp-operating devices of the second type (10-1 to 10-4) and gives them the command to take up a specified operating state;
 - d) the control station (1) calls up the lamp-operating device of the first type (20-1 to 20-2) that was contacted in step a) and gives it the command to re-activate the associated lamp-operating device of the second type (10-1 to 10-4) - if present - and to take up a switched-on operating state that differs from the operating state specified in step c);
 - e) the control station (1) determines the current operating states of all the lamp-operating devices of the second type (10-1 to 10-4), establishes whether a lamp-operating device of the second type (10-1 to 10-4) has an operating state that differs from the operating state specified in step c) and - if so - which one and registers that a lamp-operating device of the second type (10-1 to 10-4) identified in this way forms a functional couple with the lamp-operating device of the first type

(20-1, 20-2) that was called up in accordance with step b),
f) the steps b) to e) are repeated calling up every other lamp-operating device of the first type (20-1, 20-2) until all the lamp-operating devices of the first type (20-1, 20-2) have been called up.

5 15. Method according to claim 14,
characterised in that
10 the control station (1) no longer determines in step e) the current operating states of those lamp-operating devices of the second type (10-1 to 10-4) that have already previously been allocated to a lamp-operating device of the first type (20-1, 20-2).

15 16. Method according to claim 14 or 15,
characterised in that
in order to determine the operating states of the lamp-operating devices in step e) the control station (1)
20 successively calls up the lamp-operating devices of the second type (10-1 to 10-4) under their addresses established in accordance with step a) and gives them the command to signal their current operating state.

25 17. Method according to one of claims 14 to 16,
characterised in that
a lamp-operating device of the second type (10-1 to 10-4) in the switched-on operating state operates an associated lamp at 100% of the lamp capacity, with the
30 operating state specified in step c) representing a lamp operation at a capacity that differs therefrom.

18. Method according to one of claims 11 to 17,
characterised in that the lamp-operating devices of the
35 second type (10-1 to 10-4) are deactivated by an interruption of the current supply.

19. Method according to one of claims 11 to 18,
characterised in that
allocated to the determined functional couple
consisting of a lamp-operating device of the first type
5 (20-1, 20-2) and also a lamp-operating device of the
second type (10-1 to 10-4) there is a common operating
address under which the functional pair can be
contacted.